

MARYLAND DEPARTMENT OF THE ENVIRONMENT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGE PERMIT

PART I. IDENTIFICATION

A. **Permit Number:** 00-DP-3318 MD0068322

B. **Permit Area**

This permit covers all stormwater discharges to and from the municipal separate storm sewer system owned and operated by Howard County, Maryland.

C. **Effective Date:** June 20, 2005

D. **Expiration Date:** June 20, 2010

PART II. DEFINITIONS

Terms used in this permit are defined in relevant chapters of the Code of Federal Regulations (CFR) or the Code of Maryland Regulations (COMAR). Terms not defined in CFR or COMAR shall have the meanings attributed by common use unless the context in which they are used clearly requires a different meaning.

PART III. STANDARD PERMIT CONDITIONS

A. **Permit Administration**

Howard County shall designate an individual to act as a liaison with the Maryland Department of the Environment (MDE) and provide the coordinator's name, title, address, phone number, and email address. Additionally, the County shall submit to MDE an organizational chart detailing personnel and groups responsible for major National Pollutant Discharge Elimination System (NPDES) program tasks. MDE shall be notified promptly and in subsequent annual reports of any changes in personnel or organization relative to NPDES program tasks.

B. **Legal Authority**

Adequate legal authority shall be maintained in accordance with NPDES regulations 40 CFR 122.26(d)(2)(i) throughout the term of this permit. In the event that any provision of its legal authority is found to be invalid, the County shall make the necessary changes to maintain adequate legal authority.

C. **Source Identification**

Sources of pollutants in stormwater runoff shall be identified and linked to specific water quality impacts on a watershed basis. This process shall be used to develop watershed restoration plans that effectively improve water quality. The following information shall be submitted in geographic information system (GIS) format with associated tables as required in PART IV. of this permit:

1. Storm drain system: major outfalls, inlets, and associated drainage areas;
2. Urban best management practices (BMP): stormwater management facility data including locations and delineated drainage areas;
3. Impervious surfaces: delineated controlled and uncontrolled impervious areas;
4. Monitoring locations: locations established for chemical, biological, and physical monitoring of watershed restoration efforts and the *2000 Maryland Stormwater Design Manual* or other innovative stormwater management technologies approved by MDE; and
5. Watershed restoration: restoration project descriptions and locations.

D. Discharge Characterization

Howard County and ten other municipalities in Maryland have been conducting discharge characterization monitoring since the early 1990s. From this expansive monitoring, a statewide database has been developed that includes hundreds of storms across numerous land uses. Summaries of this dataset and other research performed nationally effectively characterize stormwater runoff in Maryland for NPDES municipal stormwater purposes. These data shall be used by Howard County for guidance to improve stormwater management programs and develop watershed restoration projects. Monitoring required under this permit is now designed to assess the effectiveness of stormwater management programs and watershed restoration projects developed by the County. Details about this monitoring can be found in PART III. H.

E. Management Programs

The following management programs shall be implemented in all areas served by Howard County's municipal separate storm sewer system. These jurisdiction-wide programs are designed to control stormwater discharges to the maximum extent practicable and shall be maintained for the term of this permit. Additionally, these programs are to be integrated with other permit requirements to promote a comprehensive approach toward solving water quality problems. The County shall address any needed program improvements identified as a result of periodic evaluation by MDE and annual self-assessment.

1. Stormwater Management

An acceptable stormwater management program shall be maintained in

accordance with the Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland. At a minimum, the County shall:

- a. Conduct preventative maintenance inspections of all stormwater management facilities at least on a triennial basis. Documentation identifying the facilities inspected, the number of maintenance inspections, follow-up inspections, the enforcement action(s) used to ensure compliance, the maintenance inspection schedules, and any other relevant information shall be submitted in the County's annual reports;
- b. Implement the stormwater management design policies, principles, methods, and practices found in the *2000 Maryland Stormwater Design Manual* or other innovative stormwater management technologies approved by MDE;
- c. Track the progress toward implementing the *2000 Maryland Stormwater Design Manual* or other innovative stormwater management technologies approved by MDE and report annually the modifications needed to address any programmatic problems; and
- d. Maintain programmatic and implementation information according to the requirements established as part of MDE's triennial stormwater program review.

2. Erosion and Sediment Control

An acceptable erosion and sediment control program shall be maintained in accordance with the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland. At a minimum, the County shall:

- a. Address any needed program improvements identified during MDE's evaluation of the County's application for the delegation of erosion and sediment control enforcement authority;
- b. At least three times per year, conduct "responsible personnel certification" classes to educate construction site operators regarding erosion and sediment control compliance. Program activity shall be recorded on MDE's "green card" database and submitted as required in PART IV. of this permit; and
- c. Report quarterly, information regarding earth disturbances exceeding one acre or more. Quarters shall be based on calendar year and submittals shall be made within 30 days following each quarter. The information shall be specific to the permitting activity for the preceding three months.

3. Illicit Discharge Detection and Elimination

Howard County shall maintain an inspection and enforcement program, or other

alternative methods approved by MDE, to ensure that all discharges to and from the municipal separate storm sewer system that are not composed entirely of stormwater are either permitted by MDE or eliminated. At a minimum, activities shall include:

- a. Field screening at least 100 outfalls annually. Each outfall having a discharge shall be sampled using a chemical test kit;
- b. Conducting routine surveys of commercial and industrial watersheds for discovering and eliminating pollutant sources;
- c. Maintaining a program to address illegal dumping and spills;
- d. Using appropriate enforcement procedures for investigating and eliminating illicit discharges, illegal dumping, and spills. Significant discharges shall be reported to MDE for enforcement and/or permitting; and
- e. Reporting illicit discharge detection and elimination activities as specified in PART IV. of this permit. Annual reports shall include any requests and accompanying justifications for proposed modifications to the illicit discharge detection and elimination program.

4. County Property Management

Howard County shall identify all County-owned and municipal facilities requiring NPDES stormwater general permit coverage and submit Notices of Intent (NOI) to MDE for each. The status of pollution prevention plan development and implementation shall be submitted annually.

5. Road Maintenance

Howard County shall maintain its plan to reduce pollutants associated with road maintenance activities. At a minimum, an annual progress report shall be submitted that documents the following activities:

- a. Street sweeping;
- b. Inlet cleaning;
- c. Reducing the use of pesticides, herbicides, fertilizers, and other pollutants associated with roadside vegetation management through the use of integrated pest management (IPM); and
- d. Controlling the overuse of winter weather deicing materials through continual testing and improvement of materials, equipment calibration, employee training, and effective decision-making.

6. Public Education

A public education and outreach program shall be maintained to reduce stormwater pollutants. Outreach efforts are to be integrated with all aspects of the County's activities. These efforts are to be documented and summarized in each annual report. At a minimum, the County shall:

- a. Continue to publicize a compliance hotline for the public reporting of suspected illicit discharges, illegal dumping, and spills.
- b. Provide information regarding the following water quality issues to the general public:
 - i. Water conservation;
 - ii. Stormwater management facility maintenance;
 - iii. Erosion and sediment control;
 - iv. Household hazardous waste;
 - v. Lawn care and landscape management (e.g., the proper use of herbicides, pesticides, and fertilizers, ice control and snow removal, cash for clippers, etc.);
 - vi. Litter control, recycling, and composting;
 - vii. Car care, mass transit, and alternative transportation;
 - viii. Private well and septic system management; and
 - ix. Pet waste management.
- c. Provide information regarding the following water quality issues to the regulated community when requested:
 - i. NPDES permitting requirements;
 - ii. Pollution prevention plan development;
 - iii. Proper housekeeping; and
 - iv. Spill prevention and response.

F. Watershed Assessment and Planning

Howard County shall continue the systematic assessment of water quality within all of its watersheds. These watershed assessments shall include detailed water quality analyses, the identification of water quality improvement opportunities, and the development and implementation of plans to control stormwater discharges to the maximum extent practicable. The overall goal is to ensure that each County watershed has been thoroughly evaluated and has an action plan to maximize water quality improvements.

At a minimum, the County shall:

1. Continue to develop watershed management plans for all watersheds in Howard County. These assessments shall be performed according to priorities established previously by the County. At a minimum, watershed management plans shall:

- a. Determine current water quality conditions;
 - b. Identify and rank water quality problems;
 - c. Identify all structural and non-structural water quality improvement opportunities;
 - d. Include the results of a visual watershed inspection;
 - e. Specify how the restoration efforts will be monitored; and
 - f. Provide an estimated cost and a detailed implementation schedule for those improvement opportunities identified above.
2. Develop watershed management plans until all land area in Howard County is covered by a specific action plan to address the water quality problems identified. At a minimum, the County shall perform a detailed watershed management plan for one County watershed during this permit term.
 3. Provide, in the first annual report for this permit, complete watershed management plans for Wilde Lake and Centennial Lake. Subsequent annual reports shall continue progress reporting and the detailed watershed management plan required in PART III. F.2. above shall be submitted no later than the fourth annual report.

G. Watershed Restoration

Howard County shall implement those practices identified in PART III. F. above to control stormwater discharges to the maximum extent practicable. The overall goal is to maximize the water quality in a single watershed, or combination of watersheds, using efforts that are definable and the effects of which are measurable. At a minimum, the County shall:

1. Continue the implementation of those restoration efforts that were identified and initiated during the previous permit term to restore ten percent of the County's impervious surface area. The watershed, or combination of watersheds where the restoration efforts are implemented shall be monitored according to PART III. H. below to determine effectiveness toward improving water quality.
2. Begin to implement restoration efforts in a watershed, or combination of watersheds, to restore an additional ten percent of the County's impervious surface area. These efforts shall be separate from those specified in PART III. G.1. above and shall be monitored according to PART III. H. below to determine effectiveness toward improving water quality.

3. Report annually:
 - a. The progress toward meeting the goals established in PART III. G.1. and 2. above;
 - b. The estimated cost and the actual expenditures for all watershed restoration activity; and
 - c. The progress toward meeting the overall watershed restoration goals established in PART III.F. above.

H. Assessment of Controls

Assessment of controls is critical for determining the effectiveness of the NPDES stormwater management program and progress toward improving water quality. Therefore, the County shall use chemical, biological, and physical monitoring to document work toward meeting the watershed restoration goals identified in PART III. G. above. Additionally, the County shall continue physical stream monitoring in the Hammond Branch watershed to assess the implementation of the *2000 Maryland Stormwater Design Manual* or other innovative stormwater management technologies approved by MDE. Specific monitoring requirements are described below.

1. Watershed Restoration Assessment

The County shall continue monitoring in the Font Hill watershed, or, select and submit for MDE's approval a new watershed restoration project for monitoring. Ample time shall be provided so that pre-restoration monitoring, or characterization monitoring can take place. Monitoring activities shall occur where the cumulative effects of watershed restoration activities can be assessed. An outfall and associated in-stream station, or other locations based on a study design approved by MDE, shall be monitored. The minimum criteria for chemical, biological, and physical monitoring are as follows:

- a. Chemical Monitoring:
 - i. Eight (8) storm events shall be monitored per year at each monitoring location with at least two occurring per quarter. Quarters shall be based on the calendar year. If extended dry weather periods occur, baseflow samples shall be taken at least once per month at the monitoring stations if flow is observed;
 - ii. Discrete samples of stormwater flow shall be collected at the monitoring stations using automated or manual sampling methods. Measurements of pH and water temperature shall be taken;
 - iii. At least three (3) samples determined to be representative of each storm event shall be submitted to a laboratory for analysis according to methods listed under 40 CFR Part 136 and event mean concentrations (EMC) shall be calculated for:

Biochemical Oxygen Demand (BOD ₅)	Total Lead
Total Kjeldahl Nitrogen (TKN)	Total Copper
Nitrate plus Nitrite	Total Zinc
Total Suspended Solids	Total Phosphorus
Total Petroleum Hydrocarbons (TPH)	Oil and Grease*
Fecal Coliform or E. coli	(*Optional).

iv. Continuous flow measurements shall be recorded at the in-stream monitoring station or other practical locations based on an approved study design. Data collected shall be used to estimate annual and seasonal pollutant loads and for the calibration of watershed assessment models.

b. Biological Monitoring:

- i. Samples shall be gathered each Spring between the outfall and in stream stations or other practical locations based on an approved study design; and
- ii. The County shall use the U.S. Environmental Protection Agency's (EPA) Rapid Bioassessment Protocol III, Maryland Biological Stream Survey (MBSS), or other similar method approved by MDE.

c. Physical Monitoring:

- i. A geomorphologic stream assessment shall be conducted between the outfall and in stream monitoring locations or in a reasonable area based on an approved study design. This assessment shall include an annual comparison of permanently monumented stream channel cross-sections and the stream profile;
- ii. A stream habitat assessment shall be conducted using techniques defined by the EPA's "Rapid Bioassessment Protocol for use in Streams and Rivers," or other similar method; and
- iii. A hydrologic and/or hydraulic model shall be used (e.g., TR-20, HEC-2, HSPF, SWMM, etc.) to analyze the effects of rainfall; discharge rates; stage; and, if necessary, continuous flow on channel geometry.

d. Annual Data Submittal: The County shall describe in detail its monitoring activities for the previous year and include the following:

- i. EMCs submitted on MDE's long-term monitoring database as specified in PART IV. A.2.d. below;
- ii. Chemical, biological, and physical monitoring results and a combined analysis for Font Hill or other approved monitoring locations; and

- iii. Any requests and accompanying justifications for proposed modifications to the monitoring program.

2. Stormwater Management Assessment

The County shall continue monitoring in the Hammond Branch watershed to determine the effectiveness of stormwater management practices for stream channel protection. Physical stream monitoring protocols shall include:

- a. An annual stream profile and survey of permanently monumented cross-sections in the Hammond Branch to evaluate channel stability;
- b. A comparison of the annual stream profile and survey of the permanently monumented cross-sections with baseline conditions for assessing areas of aggradation and degradation; and
- c. A hydrologic and/or hydraulic model shall be used (e.g., TR-20, HEC-2, HEC-RAS, HSPF, SWMM, etc.) to analyze the effects of rainfall; discharge rates; stage; and, if necessary, continuous flow on channel geometry.

I. Program Funding

- 1. Annually, a fiscal analysis of the capital, operation, and maintenance expenditures necessary to comply with all conditions of this permit shall be submitted as required in PART IV. below.
- 2. Adequate program funding to comply with all conditions of this permit shall be maintained.

J. Total Maximum Daily Loads

Stormwater BMPs and programs implemented as a result of this permit must be consistent with available waste load allocations (WLA's) [see 40 CFR 122.44(d)(1)(vii)(B)] developed under a Total Maximum Daily Load (TMDL). MDE has determined that owners of storm drain systems that implement the requirements of this permit will be controlling stormwater pollution to the maximum extent practicable. Therefore, satisfying the conditions of this permit will meet WLA's specified in TMDL's developed for impaired water bodies. If assessment of the stormwater management program indicates TMDL WLAs are not being met, additional or alternative stormwater controls must be implemented to achieve WLAs.

PART IV. PROGRAM REVIEW AND ANNUAL PROGRESS REPORTING

A. Annual Reporting

1. Annual progress reports, required under 40 CFR 122.42(c), will facilitate the long-term assessment of Howard County's NPDES stormwater program. The County shall submit annual reports on or before the anniversary date of this permit that include:
 - a. The status of implementing the components of the stormwater management program that are established as permit conditions;
 - b. A narrative summary describing the results and analyses of data, including monitoring data that is accumulated throughout the reporting year;
 - c. Expenditures for the reporting period and the proposed budget for the upcoming year;
 - d. A summary describing the number and nature of enforcement actions, inspections, and public education programs; and
 - e. The identification of water quality improvements or degradation.
2. To further judge the effectiveness and progress of implementing this permit, the following information shall be submitted on databases (in a format) consistent with Attachment A. Annually, except where noted, the following shall be submitted:
 - a. Storm drain system mapping (PART III. C.1.);
 - b. Urban BMP locations (PART III. C.2.);
 - c. Impervious surfaces (PART III. C.3.);
 - d. Chemical monitoring (PART III. C.4. and PART III. H.1.);
 - e. Watershed restoration project locations (PART III. C.5.);
 - f. Responsible personnel certification information (PART III. E.2.);
 - g. Grading permit information – quarterly (PART III. E.2.);
 - h. Illicit Discharge Detection and Elimination activities (PART III. E.3.); and
 - i. Fiscal analyses - cost for NPDES related implementation (PART III. I.).

B. Program Review

In order to assess the effectiveness of the County's NPDES program for eliminating non-stormwater discharges and reducing the discharge of pollutants to the maximum extent practicable, MDE will review program implementation, annual reports, and periodic data submittal on an annual basis. Procedures for the review of local erosion and sediment

control and stormwater management programs exist in Maryland's Sediment Control and Stormwater Management Laws. Additional periodic evaluations will be conducted to determine compliance with permit conditions.

C. Reapplication for NPDES Stormwater Discharge Permit

Continuation or reissuance of this permit beyond June 20, 2010 will require the County to reapply for NPDES stormwater discharge permit coverage in its fourth year annual report. As part of this application process, Howard County shall submit to MDE an executive summary of its NPDES stormwater management program that specifically describes how water quality goals set by the County are being achieved. This application shall be used to gauge the effectiveness of the County's NPDES stormwater program and will provide guidance for developing future permit conditions. At a minimum, the application summary shall include:

1. Howard County's NPDES stormwater program goals;
2. Program summaries for the permit term regarding:
 - a. Illicit connection detection and elimination results;
 - b. Watershed restoration status including County totals for impervious acres, impervious acres controlled by stormwater management, and the current status of watershed restoration projects and acres managed;
 - c. Pollutant load reductions as a result of this permit; and
 - d. Other relevant data and information for describing County programs;
3. Program operation and capital improvement costs for the permit term; and
4. Descriptions of any proposed permit condition changes based on analyses of the successes and failures of the County's efforts to comply with the conditions of this permit.

PART V. SPECIAL PROGRAMMATIC CONDITIONS

Since the signing of the Chesapeake Bay Agreement in 1983, Maryland has been working toward reducing the discharge of nutrients and sediments to Chesapeake Bay. Howard County lies within two of the Bay's ten major tributaries. These include the Patuxent and the Patapsco/Back tributaries. This NPDES permit encourages Howard County to assist with the implementation of the Tributary Strategy designed to meet the nutrient and sediment reduction goals of each of its two tributaries.

PART VI. ENFORCEMENT AND PENALTIES

A. Discharge Prohibitions and Receiving Water Limitations

The County shall effectively prohibit non-stormwater discharges through its municipal separate storm sewer system. NPDES permitted non-stormwater discharges are exempt from this prohibition. Discharges from the following will not be considered a source of pollutants when properly managed: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated ground water infiltration to separate storm sewers; uncontaminated pumped ground water; discharges from potable water sources; foundation drains; air conditioning condensation; irrigation waters; springs; footing drains; lawn watering; individual residential car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash water; and fire fighting activities. The discharge of stormwater containing pollutants, which have not been reduced to the maximum extent practicable, is prohibited. The County shall not cause the contamination or other alteration of the physical, chemical, or biological properties of any waters of the State, including a change in temperature, taste, color, turbidity, or odor of the waters or the discharge or deposit of any organic matter, harmful organism, or liquid, gaseous, solid, radioactive, or other substance into any waters of the State, that will render the waters harmful to:

1. Public health, safety, or welfare;
2. Domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial use;
3. Livestock, wild animals, or birds; or
4. Fish or other aquatic life.

B. Duty to Mitigate

The County shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment.

C. Duty to Comply

The County must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and is grounds for enforcement action; permit termination, revocation, or modification; or denial of a permit renewal application. The County shall comply at all times with the provisions of the Environment Article, Title 4, Subtitles 1, 2, and 4; Title 7, Subtitle 2; and Title 9, Subtitle 3 of the Annotated Code of Maryland.

The County shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the County to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or

similar systems, which are installed by the County only when the operation is necessary to achieve compliance with the conditions of the permit.

D. Sanctions

1. Penalties Under the CWA - Civil and Criminal

The CWA provides that any person who violates any permit condition is subject to a civil penalty not to exceed \$27,500 per day for each violation. Any person who negligently violates any permit condition is subject to criminal penalties of \$2,750 to \$27,500 per day of violation, or imprisonment of not more than 1 year, or both. Any person who knowingly violates any permit condition is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both.

2. Penalties Under the State's Environment Article - Civil and Criminal

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the County from civil or criminal responsibilities and/or penalties for noncompliance with Title 4, Title 7, and Title 9 of the Environment Article, Annotated Code of Maryland, or any federal, local, or other State law or regulation. The Environment Article, §9-342, Annotated Code of Maryland, provides that any person who violates a permit condition is subject to a civil penalty up to \$1,000 for each violation, but not exceeding \$50,000 total. The Environment Article, §9-343, Annotated Code of Maryland, provides that any person who willfully or negligently violates a permit condition is subject to a criminal penalty not exceeding \$25,000 or imprisonment not exceeding 1 year, or both.

The Environment Article, §9-343, Annotated Code of Maryland, provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or both.

The Environment Article, §9-343, Annotated Code of Maryland, provides that any person who knowingly makes any false statement, representation, or certification in any records or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or both.

E. Permit Revocation and Modification

1. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the County for a permit modification or a notification of planned changes or anticipated noncompliance does not stay any permit condition. A permit may be modified by MDE upon written request by the County and after notice and opportunity for a public hearing in accordance with and for the reasons set forth in COMAR

26.08.04.10.

After notice and opportunity for a hearing and in accordance with COMAR 26.08.04.10., MDE may modify, suspend, or revoke and reissue this permit in whole or in part during its term for causes including, but not limited to the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- c. A change in any condition that requires either a temporary reduction or elimination of the authorized discharge; or
- d. A determination that the permitted discharge poses a threat to human health or welfare or to the environment and can only be regulated to acceptable levels by permit modification or termination.

2. Duty to Provide Information

The County shall furnish to MDE, within a reasonable time, any information that MDE may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit; or to determine compliance with this permit. The County shall also furnish to MDE, upon request, copies of records required to be kept by this permit.

F. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State, or local law or regulations.

G. Severability

The provisions of this permit are severable. If any provision of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this permit to any circumstance is held invalid, its application to other circumstances shall not be affected.

H. Signature of Authorized Administrator and Jurisdiction

All applications, reports, or information submitted to MDE shall be signed as required by COMAR 26.08.04.01-1. As in the case of municipal or other public facilities, signatories shall be a principal executive officer, ranking elected official, or other duly authorized employee.

Robert M. Summers, Director
Water Management Administration

Date